APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,551	11/30/2001	Christopher D.S. Donham	NVIDP064/P000286	2643

28875 7590 10/04/2006		EXAMINER	
Zilka-Kotab, PC		TRAN, TAM D	
P.O. BOX 721120			
SAN JOSE, CA 95172-1120	ART UNIT	PAPER NUMBER
	2628	

DATE MAILED: 10/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/006,551	DONHAM ET AL.
	Examiner	Art Unit	
	Tam D. Tran	2628	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>03</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *18 January 2006*.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-30* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-30* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1.   Claims 1-30, are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter. The focus is on the result, not the step or

structure used to produce the result. A useful, concrete and tangible result must be

either specifically recited in the claim or flow inherently therefrom.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-12, 18-21, 24-27, 28, 30, are rejected under 35 U. S.C. 103(a) as being

unpatentable over Rivard et al. (USPN 5987567).

3.   In regard to claim 1, 21, 24-27, 30, Rivard teaches a method and system for

retrieving instructions from memory utilizing a texture module in a graphics pipeline, see

Fig.6, comprising: (a) sending an instruction request to video memory, where a texture

module in a graphics pipeline sends the instruction request to the video memory

(texture mapping module 645 send request to texel cache system and to DRAM); see

Fig.6, Fig.10, col.6 lines 50-55; and (b) receiving instructions from the video memory in

response to the instruction request utilizing the texture module in the graphics pipeline

(texture mapping module 645 received data from DRAM), see Fig.6, Fig.10, col.6 lines

53-55. On col.6 lines 50-60, Rivard is silent on the instruction being sent to and from

DRAM. However, col.7 lines 3-6, Rivard teaches that memory data associated with

instructions. It would have been obvious to a person of ordinary skill in the art at the

time of the invention to incorporate instructions and data on col.7 lines 3-6 into the

sending data of col.6 lines 50-60 because combination of instruction and data would

provide a constant latency which includes time for exiting and reentering the graphic

pipeline, see col.7 lines 1-3.

4.   In regard to claim 4, Rivard teaches a method and system for retrieving

instructions from memory utilizing a texture module in a graphics pipeline, wherein the

memory includes a frame buffer. See col.3 lines 5-10.

5.   In regard to claim 5, Rivard teaches a method and system for retrieving

instructions from memory utilizing a texture module in a graphics pipeline, wherein the

memory includes direct random access memory (DRAM). See Fig.6, col.4 lines 45-55.

6.   In regard to claim 8, Rivard teaches a method and system for retrieving

instructions from memory utilizing a texture module in a graphics pipeline, and further

comprising receiving initial instructions from a rasterizer module (graphic accelerator having graphic pipeline stage) coupled to the texture module. See Fig.6.

7.   In regard to claim 9, Rivard teaches a method and system for retrieving instructions from memory utilizing a texture module in a graphics pipeline, wherein the initial instructions control at least the sending of the instruction request by the texture module (graphic accelerator having graphic pipeline stage). See Fig.6.

8.   In regard to claim 18, Rivard teaches a method and system for retrieving instructions from memory utilizing a texture module in a graphics pipeline, wherein a complete instruction set is received in response to the instruction request. See Fig.6, Fig.10, col.7 lines 4-7.

9. ·   In regard to claims 19, 20, Rivard teaches a method and system for retrieving instructions from memory utilizing a texture module in a graphics pipeline, wherein a partial instruction set is received in response to the instruction request. See Fig.6, Fig.10. col.7 lines 4-7.

10.   In regard to claim 2, Rivard teaches a method and system for retrieving instructions from memory utilizing a texture module in a graphics pipeline, comprising sending a texture request to memory utilizing the texture module in the graphics pipeline. See Fig.6, Fig.10.

11.   In regard to claim 3, Rivard teaches a method and system for retrieving instructions from memory utilizing a texture module in a graphics pipeline, and further comprising receiving texture information from the memory in response to the texture request utilizing the texture module in the graphics pipeline. See Fig.6, Fig.10.

12.   In regard to claim 6, Rivard teaches a method and system for retrieving

instructions from memory utilizing a texture module in a graphics pipeline, wherein the

instructions are adapted for controlling a texture environment module coupled to the

texture module. See Fig.6, Fig.10.

13.   In regard to claim 7, Rivard teaches a method and system for retrieving

instructions from memory utilizing a texture module in a graphics pipeline, wherein the

instructions control the manner in which the texture environment module processes the

texture information. See col.7 lines 3-7.

14.   In regard to claim 10, Rivard teaches a method and system for retrieving

instructions from memory utilizing a texture module in a graphics pipeline, and further

comprising temporarily storing the instructions and the texture information in cache. See

Fig.6, Fig.10.

15.   In regard to claim 11, Rivard teaches a method and system for retrieving

instructions from memory utilizing a texture module in a graphics pipeline, wherein the

cache is resident on the texture module. See Fig.6, Fig.10.

16.   In regard to claim 12, Rivard teaches a method and system for retrieving

instructions from memory utilizing a texture module in a graphics pipeline, wherein each

piece of texture information and each of the instructions are of a similar size in the

memory. It is inherent that data store in memory have similar size. See Fig.6 and

Fig.10.

17.   In regard to claims 28, Rivard teaches a method for retrieving instructions from

memory, comprising:(a) receiving a plurality of preliminary instructions from a rasterizer

module utilizing a texture module coupled thereto; see Fig.6; (b) sending an instruction

request to memory utilizing a texture module coupled to the texture module; see Fig.6,

col.6 lines 48-52; (d) caching the additional instructions on the texture module; see

Fig.6; (e) sending a texture request to memory utilizing the texture module in

accordance with the additional instructions; (f) receiving texture information from the

memory in response to the texture request utilizing the texture module; (g) caching the

texture information on the texture module; (i) repeating (b) - (g) in accordance with the

additional instructions. See Fig.6, Fig.10, col.6 lines 48-55. Rivard is silent on the

instruction being sent to and from DRAM. However, col.7 lines 3-6, Rivard teaches that

memory data associated with instructions. It would have been obvious to a person of

ordinary skill in the art at the time of the invention to incorporate instructions and data

on col.7 lines 3-6 into the sending data of col.6 lines 50-60 because combination of

instruction and data would provide a constant latency which includes time for exiting

and reentering the graphic pipeline, see col.7 lines 1-3.

Claim Rejections - 35 USC § 103

18.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 13-17, 22, 23, 29, are rejected under 35 U. S.C. 103(a) as being unpatentable

over Rivard et al. (USPN 5987567) in view of Applicant Admitted Prior Art (AAPA).

19.   In regard to claim 13, Rivard teaches a method and system for retrieving

instructions from memory utilizing a texture module in a graphics pipeline, Rivard does

not teaches controlling the texture module utilizing a shader module coupled thereto.

However, AAPA teaches controlling the texture module utilizing a shader module

coupled thereto See Fig.3. It would have been obvious to a person of ordinary skill in

the art at the time of the invention to incorporate the shading module of AAPA into the

texture module of Rivard because combination of shading module and texture module

would enable a shading function to the graphic pipeline.

20.   In regard to claim 14, AAPA teaches a method and system for retrieving

instructions from memory utilizing a texture module in a graphics pipeline, wherein the

shader module controls the sending of instruction request and texture request by the

texture module. See Fig.3 page 5 lines 24-31.

21.   In regard to claim 15, AAPA teaches a method and system for retrieving

instructions from memory utilizing a texture module in a graphics pipeline, wherein the

shader module processes a plurality of pixels with the texture information based on the

instructions. See Fig.3.

22.   In regard to claim 16, AAPA teaches a method and system for retrieving

instructions from memory utilizing a texture module in a graphics pipeline, wherein the

shader module is capable of reusing the texture information in order to request further

texture information from the video memory (control the looping of texture process), see
Fig.3 page 4 lines 24-31.

23.   In regard to claim 17, AAPA teaches a method and system for retrieving
instructions from memory utilizing a texture module in a graphics pipeline, and further
comprising ceasing the processing upon the receipt of terminate instruction (require
significant amount of time to push down the pipeline). See Fig.3 page 5 lines 7-15.

24.   In regard to claims 22, 23, Rivard teaches a method and system for retrieving
instructions from memory utilizing a texture module in a graphics pipeline, Rivard does
not teach texture module is adapted for operating in a plurality of different modes.
However, AAPA teach texture module is adapted for operating in a plurality of different
modes. See page 3 lines 20-25. It would have been obvious to a person of ordinary skill
in the art at the time of the invention to incorporate texture module of Rivard into the
texture module of AAPA because a combination of texture module operating in plurality
of difference modes and the texture module of Rivard would provide components of the
texture module processing the texels in various ways such as an address calculation
module allow various dimensionality textures.

25.   In regard to claim 29, Rivard teaches a method for retrieving instructions from
memory, comprising:(a) receiving a plurality of preliminary instructions from a rasterizer
module utilizing a texture module coupled thereto; see Fig.6; (b) sending an instruction
request to video memory, where a texture module sends the instruction request to the
video memory; see Fig.6, Fig.10; (d) caching the additional instructions on the texture
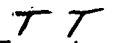module; see Fig.6; Rivard does not teach (b) sending an instruction request to memory

utilizing the texture module couple to shader module; (e) sending a texture request to

memory utilizing the texture module in accordance with the additional instructions; (f)

receiving texture information from the memory in response to the texture request

utilizing the texture module; (g) caching the texture information on the texture module;

(i) repeating (b) - (g) in accordance with the additional instructions; (j) outputting the

processed pixels upon receipt of additional instructions that include a terminate

instruction. However, AAPA teaches (b) sending an instruction request to memory

utilizing the texture module couple to shader module; see Fig.3; (e) sending a texture

request to memory utilizing the texture module in accordance with the additional

instructions; (f) receiving texture information from the memory in response to the texture

request utilizing the texture module; (g) caching the texture information on the texture

module; (i) repeating (b) - (g) in accordance with the additional instructions. See Fig.2.

(j) outputting the processed pixels upon receipt of additional instructions that include a

terminate instruction (require significant amount of time to push down the pipeline). See

Fig.3 page 5 lines 7-15. It would have been obvious to a person of ordinary skill in the

art at the time of the invention to incorporate the method of sending a texture request of

AAPA into texture module of Rivard because a combination of AAPA's method and

Rivard's texture module would provide a communication channel between memory and

texture module for transferring texture data from the memory to back end of graphic
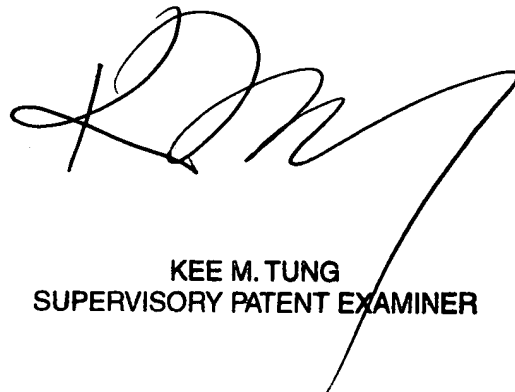
pipeline.

Conclusion

26.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tam D. Tran** whose telephone number is **571-272-7793**. The examiner can normally be reached on MON-FRI from 8:30 – 5:30.

      If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Kee M. Tung** can be reached on **571-272-7794**. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

      Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tam Tran
T T
Examiner

Division 2628

KEE M. TUNG
SUPERVISORY PATENT EXAMINER